Chapter Five

ECONOMIC POWER

ECONOMIC SECURITY, ECONOMIC POLICY, AND SECURITY POLICY

Economic security can be viewed through two different lenses: one focuses on the national security dimensions of economic policy, the other on the economic dimensions of national security policy. The first lens concentrates on the national security effects and consequences of economic measures and economic policies. This includes consideration of how the economy's performance affects the international security position of the United States. Most of the discussion in the preceding chapters has viewed economic security through this lens. Thus, its scope has encompassed the security reasons for seeking to limit the uncertainty and instability of U.S. economic growth while raising its magnitude; the security reasons why it may be germane that the U.S. economy should be "number 1" in the world economy; the case for having large, competitively and technologically vigorous firms; the special importance that may be attributed to certain key sectors and technologies; and the security benefits associated with a robust and stable global economic and financial infrastructure. We have dwelt at some length, in the preceding discussion, with these security dimensions of economic policies because of their prominence in the public debate, as well as the frequent looseness if not obscurity accorded these matters in the media.

Organizationally, within the U.S. policy community, responsibility for the security dimensions of economic policy is spread across a

large number of agencies that have principal jurisdiction over the numerous instruments and measures of economic policy. These agencies include the Department of the Treasury, the Department of Commerce, the Department of State, the U.S. Trade Representative, the International Trade Commission, and the National Economic Council. The DoD is an occasional, but usually only a secondary, player in this arena.

The second lens provides a different view of "economic security." This view encompasses the economic dimensions of national security policy, focusing on the economic effects and consequences of national security policies. Defense and military policy are more directly and conspicuously involved, and the roles of the DoD, the National Security Council, and the intelligence community are of central importance. From this perspective, "economic security," construed as the economic dimensions of national security policy, has two components. The first deals with ways in which military instruments may be used to generate economic effects; the second is concerned with ways in which economic instruments may be used to generate military effects by substituting for, supplementing, or reinforcing military ones in strengthening U.S. defense policy.

We address both components in the following discussion. Although the discussion is briefer than the previous treatment of the security dimensions of economic policies, we regard the economic dimensions of security policies as of equal importance. And, as noted above, the economic dimensions of security policies are and should be of particular concern to the DoD.

USING DEFENSE RESOURCES FOR ECONOMIC PURPOSES

The first component focuses on how economic considerations and criteria can affect the management, use, and allocation of resources earmarked for defense purposes. To illustrate how military instruments and resources may be used for their economic effect, we touch briefly on dual-use technology, the use of military capabilities to advance nondefense objectives, international burden-sharing, arms exports, and economic intelligence.

Dual-Use Technology

In some instances—perhaps more in the future than in the past—a choice among alternative military R&D projects, or among alternative ARPA-supported technologies, may be influenced by anticipated or hoped-for economic side effects. A case in point is the development of composite materials connected with the stealth program and the consideration of whether and how these composites may result in benefits for the private sector. Of course, a standard part of the debate over "industrial policy" between the United States, on the one hand, and Japan and Europe, on the other, has been the latter's argument that U.S. defense R&D has in fact functioned as a powerful source of defense subsidy for commercially lucrative spin-offs (e.g., the development of wide-body jet aircraft), thereby justifying compensatory subsidization by European and Japanese governments of their favored technologies and industries. However, there is a flaw in this argument. The commercially valuable side effects of U.S. military R&D in the past resulted (inadvertently) from efforts whose principal and explicit aim was to contribute to producing an international "public" good—namely, increased (NATO) military capabilities in the West's struggle with the Soviet Union—from which Europe and Japan benefited along with the United States. No corresponding public good from which the United States would benefit results from European and Japanese industrial policies.

A central question that arises in considering the meaning of "economic security" in the future is whether dual-use benefits should become an explicit and deliberate aim of U.S. security policy and of the use of defense resources. The argument for an affirmative answer is that there may well be instances in which a marginal modification or adjustment in the technologies and R&D programs that the DoD supports may also generate commercial payoffs and, hence, that these spin-off benefits should be made an explicit part of the decisionmaking process governing the use of defense R&D resources. The counterargument is that such spin-off benefits would not be sufficient to offset the suboptimal military R&D that would be undertaken in the quest for these benefits. To the extent that U.S. policymakers impute greater value to the spin-offs, and evince less concern for the military payoffs that may be forgone, they are likely to push dual-use technology in favor of this trade-off.

Joint-Use of Military Capabilities

A second example of the dual-use of military resources is the employment of military forces, airlift, logistics, engineering, and medical services to provide emergency assistance and relief in economic development and nation-building in support of U.S. policies in other countries. The experience of "Operation Provide Hope" in 1991 in Russia and Ukraine and the other republics of the former Soviet Union is a case in point. Indeed, the argument can be made that selected use of such capabilities may even serve certain military training and operational purposes at very low marginal costs in relation to the economic benefits thereby produced.[1] Economically beneficial results may thus be more efficiently obtained by using defense capabilities than by trying to obtain them in other ways.

International Burden-Sharing

It seems evident that, notwithstanding the U.S. position as the sole global superpower, the structure and pattern of international peacemaking and peacekeeping in the emergent world order will more often be collective and multilateral and will involve the United Nations or other collective bodies to a much greater extent than in the past. This evolving pattern entails both the sharing of responsibility, on the one hand, and of burdens and costs on the other. How these burdens are determined, and the forms in which they are to be shared (whether, for example, in hard currency, in manpower, or through the contribution of other resources) remains to be determined. It is not clear, for instance, whether the United Nations contribution formula is appropriate or whether adjustments should be made that allow for differing regional interests or for contributions in kind. Moreover, these economic dimensions of collective security arrangements, and how they are adjudicated, are likely to have profound effects on the political and military efficacy of the evolving United Nations or other collective security structures. To the extent that U.S. security policy encompasses collective security undertakings, sharing the burdens of such undertakings becomes part of the economic agenda of security policy.

[1]See Steedman Hinckley's RAND report on *Department of Defense Assistance to the Former Soviet Republics: Potential Applications of Existing Army Capabilities,* MR-245-A, relating to the use of Army capabilities for nation-building purposes. (RAND Graduate School doctoral dissertation, 1993.)

Arms Exports

In the post–Cold War era, when defense procurement budgets in the United States and almost all major industrial countries are declining, incentives to increase exports of advanced conventional weapons are becoming stronger. Such exports become especially appealing both to U.S. and foreign defense firms to spread fixed tooling and overhead costs over a larger production base. These arms exports can also help maintain a critical minimum of design and technological expertise necessary to sustain the progress of military technology.

Two additional arguments can be adduced in favor of arms exports: First, arms exports to such key friends and allies of the United States as South Korea, Turkey, Israel, Egypt, Taiwan, Saudi Arabia, and Pakistan may strengthen regional deterrence and reduce the risk of aggression against them. Second, forgoing U.S. arms exports would simply result in increased sales by one or more of the other principal weapons exporters—Russia, France, China, or Britain.

As a result of these considerations, as well as the high quality of U.S. weapon technology, the U.S. share of the global arms market has increased substantially to more than half of the $50 billion annual global market, compared with approximately 25 percent in the 1980s. Arms exports carry with them serious, but often neglected, downstream risks. The collective security structures referred to earlier may be more severely stressed by the proliferation of advanced military technology in various turbulent regions of the world and by the higher levels of violence that may ensue in conflicts in these regions. One corollary of this dilemma is to seek some form of stabilization and control to moderate weapons exports, rather than unrealistically attempting to eliminate it.[2] Another corollary is to include among the objectives of security policy the development of new technology and systems that can serve as promising countermeasures to offset the increased capabilities that are being acquired in potentially unstable regions of the world as a result of exports of advanced

[2]See the discussion of "Arms Trade and Arms Control" below.

weapons, e.g., improving Patriot interceptors to counter improved Scud missiles.

Economic and Security Intelligence

One of the potentially important economic dimensions of security policy arises from the intensified competition among firms and countries in the world economy. In this competitive environment, the temptation for individual firms—some of which are partly or substantially owned by foreign governments—to engage in industrial espionage, perhaps with the assistance of their national governments, may grow. The aim is to get a leg up on the competition by acquiring the benefits of the competition's proprietary research without paying its costs. In trying to ascertain the extent to which such practices have occurred, are continuing, and may increase, the U.S. intelligence community may have a more active, as well as countervailing, role to play in the future.

USING ECONOMIC RESOURCES FOR DEFENSE PURPOSES

The second component of the economic dimensions of national security policy focuses on the role and use of economic instruments to advance the purposes of national security policy. These economic instruments can be defined and exercised separately from military and diplomatic instruments in their ability to protect or advance U.S. national interests. However, the effectiveness of economic instruments can often be significantly enhanced by conjoining their use with that of the other instruments.

As elements of national security policy, economic instruments can influence the behavior of other countries by conferring economic benefits or imposing economic costs or by displaying a credible capacity to do so. Foreign economic aid, as well as military aid, technical assistance, and most-favored nation status, can be used to confer such benefits. Economic sanctions, embargoes, freezing of financial assets, restricting access to the U.S. market, or heavily taxing such access can be used to impose economic costs.

When economic instruments are used as adjuncts of security policy, they can be compared to military instruments and can be evaluated

in relation to the latter's capacity to affect behavior. Military instruments provide a means of influencing behavior in the international arena by deterrence or compellence, that is, by using force (rather than imposing economic costs), or credibly threatening to use it, to dissuade other countries from using it, or by using force to coerce, preempt, or repel their attempts to use it.

Besides their possible use as substitutes for the use of force, economic instruments can be used—whether as "carrots" or "sticks"—to enhance the effectiveness of military instruments in the pursuit of security objectives. For example, financial assets may be frozen instead of, or in addition to, the enforcement of a naval blockade.

Measuring Economic Instruments

Several economic indicators or metrics can be used to define and size the nation's capacity to generate economic instruments that bear directly or indirectly on security policy. These include gross national or domestic product (GNP or GDP), population (and hence, labor supply and per capita GNP), and a country's current account surplus. GNP and per capita GNP are typically used in discussions of economic power or of changes that occur in the *relative* economic power of countries. Inclusion of the current account surplus as an economic instrument is based on the questionable premise that it represents a current capital resource that, in principle at least, can be guided or shunted by using one policy device or another toward or away from a particular target country that may be the object of a nation's power. However, there are serious constraints on such uses because of the typically decentralized processes that determine international capital flows. Consequently, the ability of government policy to exercise a controlling influence on the amounts and directions of capital flows is usually limited.

At a more disaggregative level, the economic instruments of power can be defined in terms of particular components or sectors of the economy that are believed to have special significance, for example, advanced and advancing technology sectors, such as telecommunications, microelectronics, semiconductors, fiber optics, and bioengineering. The special significance attached to these key sectors resides in the economywide, growth-promoting effects they may generate; or in the monopoly market power (and hence supernormal

profits) that may result from them; or in their anticipated connection to present or future military capabilities, including capabilities to protect and defend against the military capabilities of others. Similarly, specific components of the population and the general labor pool may be considered of greater significance as economic instruments of power than the population as a whole, for example, certain particular types of skilled labor; scientists; engineers; managers; design, production, and marketing experts; and computer scientists.

Apart from the current account surplus, another component of a country's international accounts can provide a type of economic power, for example, the size of its market to which foreign access may be permitted or denied, which can be roughly approximated by its level of imports. Thus, a country's level of *imports* is potentially a source of economic power, as well as its exports. Also, within the total international accounts, the nation's exports of goods and services constitute instruments of economic power that can be directed toward or away from foreign areas. Restricting access to U.S. goods' markets, or threatening to do so has, in fact, been more frequently used as a policy instrument than restricting access to U.S. capital markets.

As measures of economic power, these indicators have some utility, as well as serious flaws, especially so for the more aggregative measures. For example, one flaw arises from the fact that the measures may be inconsistent with one another and may move in opposite directions. Thus, on the one hand, the U.S. GNP as a share of the global product, has remained remarkably constant over the last 20 years (about 23 percent), and indeed has probably increased in the last 2 years due to stagnant or negative growth in Japan, Germany, and the former Soviet Union.[3] On the other hand, the U.S. current account has remained in deficit over the past decade, thereby weakening the ability of U.S. policymakers to direct net capital resources toward or away from particular target areas.

[3]According to certain premises of economic theory—specifically, concave welfare functions and the diminishing marginal utility of income—the imposition of costs, or the threat of imposing them, may be a more effective means of influencing the behavior of particular countries than conferring benefits. The point may be particularly valid for countries that have relatively higher income levels, while the converse—benefits (carrots) more effective than cost imposition (sticks)—may be more effective if applied to countries with lower income levels.

Another reason such aggregate measures are seriously flawed as indicators of effective economic power is that the resources they measure are not credibly disposable or mobilizable for direct application to specific purposes in specific foreign areas. Limitations on the availability or disposability of aggregate resources arise from different sources. For example, China's GNP is currently perhaps two-thirds that of Japan in purchasing power parity terms, and India's GNP is perhaps one-fifth that of Japan. Yet both China and India are constrained in their ability to mobilize these large resources because of the enormous consumption demands of their respectively large populations.[4]

A different, but no less binding, constraint affects the U.S. capacity to mobilize its aggregate resources for foreign-policy purposes. This constraint arises from decentralization of economic decisionmaking in a market-based economy, thereby limiting the ability of government to direct, for foreign-policy purposes, the use and application of resources that are privately owned and produced.

The indicators of economic instruments of security policy can be compared to indicators of the military instruments of security policy. These, at an aggregative level, include total military spending, the size and quality of military forces, and the magnitude and quality of the military capital stock. And, at a more disaggregative level, the military instruments entail specific types of forces and capabilities: airlift and sealift projection forces, delivery systems, command and control and intelligence capabilities, and so on.

Although it is quite clear that the economic instruments we have referred to encounter major limitations in the effectiveness with which they can be used as adjuncts of security policy, it should not be forgotten that the military instruments themselves are often of limited effectiveness in their ability to protect and advance national objectives. Military instruments were not sufficient to win in Vietnam, and

[4]See Charles Wolf, Jr., Gregory Hildebrandt, Michael Kennedy, et al., *Long-Term Economic and Military Trends, 1950–2010*, RAND, N-2757-USDP, April 1989, Santa Monica, Ca.

the effectiveness of their past or prospective use in such differing situations as Northern Ireland and Bosnia is subject to limitations and constraints that are no less formidable than those that attend to the use of economic instruments to further U.S. security policy.

Key Industries and Technologies

The argument about nurturing key industries and technologies as elements of security policy relates in part to their presumed criticality in the exercise of *leverage* in the international arena. Such leverage, it is suggested, can be exercised by the United States if these industries and technologies are vigorous and productive within the U.S. economy, but leverage may be exercised against the United States if they are not. In the latter instance, the United States becomes dependent on the corresponding industries and technologies in other countries.

The reasoning in this instance is that these sectors and technologies are believed to have special attributes and importance because of the potential military applications they entail, or because of the dependency in which they place the economies of other countries or the invulnerability they enable the U.S. economy to achieve from possible coercion by others.

On one side of this argument are those who contend that only the overall size of an economy is important in determining the economic leverage it can exercise over other countries and that the specific composition of its industry is less relevant for this purpose. They argue that military power and mobilization capability are related to the overall size of the economy and that other forms of leverage (such as those discussed above) are also related to the size of the economy.

On the other side of the argument is the contention that computer chips really do matter more than potato chips, as the saying goes, or that a boom in residential construction will benefit the U.S. economy and its consumers, but is unlikely to confer any particular leverage over the behavior of other countries. As noted earlier, the argument that favors the special importance of certain key sectors and technologies identifies several characteristics associated with these sectors: economies of scale, economies of "learning" and know-how, imperfect competition (e.g., barriers to entry or to technology acquisitions), and the generation of subsequent benefits (externalities) for other sectors of the economy.[5]

Although the argument in favor of certain "key" industries and technologies has appealing features, it suffers from several serious weaknesses. One weakness is the lack of an objective basis for determining precisely which industries or technologies are or will be the key ones. This leads to the further difficulty of adjudicating between the competing claims advanced by both the scientific and business communities in advocating the prospective positive externalities and learning-curve benefits associated with the technologies or industries they favor. Compounding this difficulty is the rapidity of change as to what constitutes key or critical technologies, even if an initial cut at identifying them could be made objectively. For example, it seems likely that the digital technology in which Japan's advanced development of high-definition television has been concentrating will be leap-frogged by the development of fiber optics in which the U.S. has been leading. Moreover, the process of competition and adaptation may render the position of leadership in a supposedly key technology transitory and vulnerable. Thus, U.S. production of semiconductors, after several years of ceding market share to Japanese producers, has in the past two years caught up with and overtaken the Japanese market share, while enhancing the dominance of U.S. producers in the advanced microprocessor part of the industry.

SYNERGIES BETWEEN ECONOMIC AND MILITARY INSTRUMENTS

As a general proposition, the use or credible threat to use economic instruments to confer rewards or impose penalties can enhance the capacity of military instruments to influence the behavior of other countries by the use of force, or by a credible threat to use it. In some circumstances, economic instruments may substitute for military instruments. Despite these potentially important interactive relationships between economic and military instruments, too little of the discussion and analysis of economic instruments has considered

[5]See the discussion in Chapter Three above.

their use in conjunction with that of military instruments—to which we now turn.

The following examples suggest some opportunities for the synergistic use of economic and military instruments for defense-related purposes.

Arms Trade and Arms Control

One of the acute problems with which the post–Cold War era is likely to be afflicted is that relating to the proliferation of increasingly effective conventional weapons. The $30 billion annual weapons market is propelled by powerful economic incentives alluded to earlier, that impinge on the major weapon producers—the United States, Russia, China, France, and Britain, as well as numerous "second-tier" producers, including Brazil, Israel, North and South Korea, Argentina, and Taiwan—and the often still more powerful political-ethnic-diplomatic incentives and aspirations of the weapon buyers in the Middle East, Asia, Eastern Europe, and other potentially unstable regions of the world.

The question then arises whether the military balances in these regions might be made more secure by controlling weapon *imports* into countries of the region and by controlling weapon *exports* from the major suppliers to these regions. If a practicable answer to this question exists, it is likely to depend on the synergistic use of economic, military, and political-diplomatic instruments of policy.[6] For example, it may be possible to establish analytically the specific categories of weapons that would be most destabilizing in particular regional arms balances. For example, such weapons as advanced land and sea mines, submarines, and long-range and accurate cruise missiles might be especially destabilizing in the Middle East region. For such "high leverage" items, it may be possible to establish a "market stabilizing mechanism" that would either prohibit the export of such systems entirely, or, in exceptional cases where the exporting country has compelling economic needs (specifically Russia, for which weapon exports represent such a large traditional source of foreign exchange earnings), to establish a compensatory fund subscribed by the five member countries and by other possible contributors to offset the opportunity costs incurred by forgone sales.

[6]An ongoing RAND research project, under the leadership of Ken Watman and Marcy Agmon, considers the synergistic use of economic and military instruments to establish and enforce such controls in the arms trade. Kenneth Watman, Marcy Agmon, Charles Wolf, Jr., *Controlling Conventional Arms Transfers*, Santa Monica, Calif.: RAND, MR-369-USDP, 1994.

Another economic instrument that could be invoked to support the market stabilizing mechanism might be an arrangement for preemptive counterbidding by a threatened member of the region to induce the seller to refrain from the impending sale. If, for example, one of the five major sellers were seriously considering the sale of a high-leverage system, e.g., submarines, to Iran or Iraq, Saudi Arabia might be given a right of first refusal to preempt the sale.

Finally, in addition to these carrots, an enforcement stick might be invoked in the form of denying access to the commercial markets of the five member countries by any individual firm in an exporting country that violates the restrictions provided by the market-stabilizing regime.

Dual-Use Technology in Reverse

We have referred earlier to the possibility of introducing as one criterion in the selection of new military technology the possibility that the selected technology would also have commercial applications and spillover benefits. The process can also be viewed in reverse. In considering military tasks and missions, instead of developing advanced technology to enhance the performance of these missions, it may be more effective in using (and saving) military resources in general, and military R&D resources in particular, to "piggyback" on the civil sector, rather than developing *de novo* new technology for the military. Rather than developing new sensors or new software for military guidance systems, it may be more efficient for the conduct of military programs to investigate thoroughly the availability of current or impending counterpart technologies in the civil commercial sectors that might be given a marginal tilt or spin to enable them to be used effectively for the military purposes that are sought.

The Effects of Economic Growth on Defense Capabilities

One of the most striking examples of the use of economic instruments of power to complement military instruments is provided by South Korea's record in the past several years. In this instance, the relevant economic instruments have been Korea's remarkable record of economic and technological progress—average annual real growth of its gross national product of 8 percent during the past two decades, and more than doubling the real volume of its international trade in the past decade)—thereby providing leverage for Korea's efforts to establish formal diplomatic and economic relationships with Russia and China. In turn, these relationships have significantly reduced, if not permanently removed, the provision by Russia and China of military aid to North Korea. The bottom-line result is, in effect, to reduce the probability of aggression from the North, and to improve the military balance between North and South Korea in favor of the South.

Thus, South Korea's economic instruments, as reflected by its expanded economic and technological base, and the attraction to Russia and China of increased economic relations with South Korea, have contributed to a substantial enhancement of South Korea's military parity relative to that of the North.

A less benign example of the powerful effects of economic growth on defense and security capabilities is provided by China's recent record. China is the fastest growing of the major countries in the world, with an average real rate of growth 2 or 3 times that of the other major countries. With this expanding base, China is the only major country whose military capabilities and projection forces are substantially growing, while those of other countries have indeed been receding. Whether and how this expansion in China's military capabilities will be used is likely to be among the most serious security issues facing the world over the next decade.

Japan presents another instance of the overarching effects on defense capabilities and resources that result from economic growth. Over the past decade Japan's significant military modernization and enhancement has been sustained by the allocation of approximately

1 percent of the Japanese GNP to defense uses. In a period of rapid economic growth, this constant 1-percent parameter was applied to an expanding base, thereby providing substantial resources—$2 or 3 billion in constant prices—each year for use in increasing Japan's military capabilities. But the Japanese economy has experienced serious setbacks in recent years, resulting in negative growth in 1992 and the prospect of probably much lower real rates of growth during the rest of the 1990s. In these circumstances, whether the resources that are allocated to maintaining, let alone enhancing, Japanese military capabilities if the 1-percent figure is maintained, or whether that parameter will be raised, is likely to be the focus of sharp political controversy in Japan.